

IN THE CLAIMS

Please amend the claims as follows:

Claim 1 (Currently Amended): A handover control method that switches a radio base station serving as a communicating counterpart of a mobile station comprising:

detecting that said radio base station fails to provide a predetermined minimum bandwidth for said mobile station due to increasing shortage of radio resources ~~whether any of mobile stations communication with the radio base station become incapable of communicating while a predetermined minimum bandwidth secured;~~ and

switching the communicating counterpart of the mobile station ~~that communicates with said radio base station~~ from said radio base station to another radio base station in response to the detection at said detecting step.

Claim 2 (Currently Amended): A handover control method that switches ~~the a~~ radio base station serving as ~~the a~~ communicating counterpart of ~~the a~~ mobile station, comprising:

detecting ~~whether any of mobile stations communicating with the radio base station that the mobile station becomes~~ become incapable of communicating ~~while~~ by using the predetermined minimum bandwidth secured;

selecting one or more radio base stations based on transmission capacity of the radio base stations such that a totality of said one or more radio base stations provide a total data transmission capacity satisfying the predetermined minimum bandwidth; and

switching the communicating counterpart of the mobile station ~~that communicates with said radio base station~~ from said radio base station to said one or more base stations in response to the detection at said detecting step so that the mobile station communicates with said one or more base stations simultaneously ~~a plurality of other radio base stations.~~

Claim 3 (Original): The handover control method as claimed in claim 1 or 2,
wherein

a radio base station whose electric field intensity was the strongest and a mobile station that measured it are selected as the mobile station as the object of the handover and the radio base station serving as the communicating counterpart thereof, excepting a set of the mobile station and the radio base station under current communication, based on electric field intensity information about the radio base stations obtained from each mobile station.

Claim 4 (Original): The handover control method as claimed in claim 1 or 2,
wherein

a mobile station to which allocation of radio resources is the nearest to the minimum bandwidth and a radio base station which has the most radio resources available are selected as the mobile station and the radio base station for the handover object.

Claim 5 (Original): The handover control method as claimed in claim 1 or 2,
wherein

a mobile station that requires the radio resources in the highest value of the minimum bandwidth and a radio base station in which the radio resources are available the most are selected as the mobile station and the radio base station for the handover object.

Claim 6 (Currently Amended): The handover control ~~methods~~ method as claimed in ~~any one of claims 1 through 5~~ claim 1 or 2, wherein

the detection of an inability to communicate while the predetermined minimum bandwidth secured at any of mobile stations that communicate with the radio base station is realized by measuring an electric field intensity, a bit error rate, a frame error rate, a packet

error rate, a packet discarding rate, or any combination thereof and basing on the measuring result thereof.

Claim 7 (Currently Amended): The handover control ~~methods~~ method as claimed in ~~any one of claims 1 through 6~~ claim 1 or 2, wherein

said mobile station selects a radio base station that serves as the communicating counterpart after said switching.

Claim 8 (Currently Amended): The handover control ~~methods~~ method as claimed in ~~any one of claims 1 through 6~~ claim 1 or 2, wherein

the radio base station which serves as the communicating counterpart after said switching is selected by a node other than said mobile station;

information indicative of the selected radio base station is reported to said mobile station from said node; and

the radio base station which serves as the communicating counterpart of said mobile station is switched to the reported radio base station.

Claim 9 (Currently Amended): The handover control ~~methods~~ method as claimed in ~~any one of claims 1 through 8~~ claim 1 or 2, comprising

detecting when a communication securing a predetermined minimum bandwidth becomes impossible at any of mobile stations that are communicating with a radio base station in a first radio communication system that employs a first communication protocol; and

transferring information relative to radio resources of said mobile station from said first radio communication system to said second radio communication system via a wired section upon converting the protocol,

when switching the communicating counterpart of the mobile station that communicates with said radio base station to the second radio base station that employs the second communication protocol when said detection was made.

Claim 10 (Currently Amended): A handover control method which switches a radio base station which serves as the communicating counterpart of a mobile station, comprising:

deciding as to whether communication of a radio base station will be in a traffic congestion condition;

selecting a combination of a mobile station that communicates with said radio base station and ~~one or more~~ a required number of radio base stations required to satisfy a predetermined standard ~~with which said mobile station can communicate according to a predetermined standard~~ when the decision is made that the communication of the radio base station will become congested; and

switching the communicating counterpart of the mobile station in the selected combination to ~~one or more~~ the required number of radio base stations in the combination so that the mobile station communicates with the required number of radio base stations simultaneously.

Claim 11 (Original): The handover control method as claimed in claim 10, wherein the predetermined standard for selecting a combination of said mobile station and a radio base station is defined based upon an available amount of radio resources of a radio base station or an amount of the radio resources required.

Claim 12 (Original): The handover control methods as claimed in claim 10 or 11,
wherein

the predetermined standard for selecting the combination of said mobile station and a radio base station is defined based upon receiving electric field intensity of the communication between the mobile station and the radio base station.

Claim 13 (Currently Amended): The handover control ~~methods~~ method as claimed in ~~any one of claims 10 through 12~~ claim 10, wherein

the predetermined standard for selecting the combination of said mobile station and a radio base station is defined based upon the ratio of the amount of radio resources permitted to the mobile station to the amount of radio resources currently used in fact.

Claim 14 (Currently Amended): The handover control ~~methods~~ method as claimed in ~~any one of claims 10 through 13~~ claim 10, wherein

the predetermined standard for selecting the combination of said mobile station and a radio base station is defined based upon the number of the radio base stations which should perform simultaneous communications after switching the communicating counterpart.

Claim 15 (Currently Amended): The handover control ~~methods~~ method as claimed in ~~any one of claims 10 through 14~~ claim 10, wherein

the predetermined standard for selecting the combination of said mobile station and a radio base station is defined based upon whether the radio base

station which is performing the current communication is included in the radio base stations with which the mobile station is to communicate after switching the communicating counterpart.

Claim 16 (Currently Amended): The handover control method as claimed in ~~any one of claims 10 through 15~~ claim 10, wherein

a priority about the appropriateness of mutual communication is given to combinations of each mobile station that communicates with said radio base station and said radio base station and one or more of radio base stations adjacent to the radio base station in accordance with said predetermined standard; and

a selection is made in favor of the combination of a mobile station and a radio base station with a higher priority.

Claim 17 (Currently Amended): The handover control ~~methods~~ method as claimed in ~~any one of claims 10 through 16~~ claim 10, wherein

the process for selecting a combination of any of mobile stations that communicate with said radio base station and one or more radio base stations that can communicate with said mobile station is performed by a node that is connected to each radio base station via a wired section.

Claim 18 (Currently Amended): The handover control ~~methods~~ method as claimed in ~~any one of claims 10 through 16~~ claim 10, wherein

a mobile station that communicates with said radio base station performs the process for selecting a combination of said mobile station and one or more radio base

stations with which said mobile station can communicate according to said predetermined standard.

Claim 19 (Original): The handover control method as claimed in claim 18, wherein said mobile station which communicates with said radio base station determines whether said radio base station is in a traffic congestion condition.

Claim 20 (Currently Amended): The handover control ~~methods~~ method as claimed in any one of claims 1, 2, and 10, wherein the communication conditions between the mobile station and one or more radio base stations are supervised after switching the communicating counterpart of said mobile station to said one or more radio base stations; and

a process is performed such that the communicating counterpart of said mobile station may be switched again when the supervised communication condition turned into a condition poorer than the predetermined standard condition.

Claim 21 (Original): The handover control method as claimed in claim 20, wherein an error rate in communication between a mobile station and one or more radio base stations is supervised as said communication condition.

Claim 22 (Currently Amended): A handover system that switches radio base stations as ~~the~~ a communicating counterpart of a mobile station, comprising:

detection means for detecting that a radio base station fails to provide a predetermined minimum bandwidth for the mobile station due to increasing shortage of radio resources~~an~~

~~inability of any of mobile stations that are communicating with a radio base station to communicate while a predetermined minimum bandwidth condition secured; and~~

switching control means for switching the communicating counterpart of the mobile station ~~communicating with said radio base station~~ from said radio base station to another base station in response to the detection by said detection means that said radio base station fails to provide the predetermined minimum bandwidth, ~~when said detection means detected that any mobile station is unable to communicate while the predetermined minimum bandwidth condition secured.~~

Claim 23 (Currently Amended): A handover control system that switches radio base stations serving as the ~~a~~ communicating counterpart of a mobile station, comprising:

~~a detection means for detecting unit configured to detect an inability of any of mobile stations that are communicating the mobile station to communicate~~ with a radio base station ~~to communicate while~~ with a predetermined minimum bandwidth condition secured;

a selecting unit configured to select one or more radio base stations based on transmission capacity of the radio base stations such that a totality of said one or more radio base stations provide a total data transmission capacity satisfying the predetermined minimum bandwidth; and

~~a switching control means for switching unit configured to change~~ the communicating counterpart of the mobile station ~~communicating with said radio base station~~ from said radio base station to said one or more base stations in response to the detection of the inability by said detection unit so that the mobile station communicates with said one or more base stations simultaneously ~~a plurality of other base stations when said detection means detected that any mobile station is unable to communicate while the predetermined minimum bandwidth condition secured.~~

Claim 24 (Original): The handover control system as claimed in claim 22 or 23,
wherein

said switching control means comprises selection means for selecting a radio base station whose electric field intensity is the strongest and the mobile station that measured it as the mobile station and the radio base station serving as the communicating counterpart for the handover, based on the electric field intensity information relative to radio base stations obtained from each mobile station, excepting the combination of the mobile station and the radio base station in current communication.

Claim 25 (Original): The handover control system as claimed in claim 22 or 23,
wherein

said switching control means comprises selection means for selecting a combination of a mobile station that is assigned an amount of radio resources the closest to the minimum bandwidth and a radio base station where the radio resources are available the most as the mobile station and the radio base station for the handover.

Claim 26 (Original): The handover control system as claimed in claim 22 or 23,
wherein

said switching control means comprises selection means for selecting a combination of a mobile station that requires a large amount of the radio resource with the highest value of the minimum bandwidth and a radio base station where the radio resources are available the most as the mobile station and the radio base station for the handover.

Claim 27 (Currently Amended): The handover control system as claimed in ~~any one~~
~~of claims~~ claim 22 through 26 or 23, wherein

said detection means comprises measurement means for measuring an electric field intensity, bit error rate, a frame error rate or a packet discarding rate, or any combinations thereof, and the detection of the inability to communicate of any mobile stations that are communicating with the radio base station while the predetermined minimum bandwidth secured, based on measurement results by said measurement means.

Claim 28 (Currently Amended): The handover control of system as claimed in ~~any one of claims~~ claim 22 through 27 or 23, wherein

said mobile station selects the radio base station serving as the communicating counterpart after said switching.

Claim 29 (Currently Amended): The handover control system as claimed in ~~any one of claims~~ claim 22 through 27 or 23, wherein,

the radio base station which serves as the communicating counterpart after said switching is selected by a node other than said mobile station;

the information on the selected radio base station is reported to said mobile station from said node; and

the switching is made to the reported radio base station as the base station to serve as the communicating counterpart of said mobile station.

Claim 30 (Currently Amended): The handover control system as claimed in ~~any one of claims 22 through 29~~ claim 22 or 23, wherein

said detection means detects that any mobile station among mobile stations under communication with a radio base station of the first radio communication system that employs the first communication protocol becomes unable to communicate in the condition that the predetermined minimum bandwidth is secured,

said handover control system comprising means that transfers information about radio resources of said mobile station from said first radio communication system to said second radio communication system upon protocol conversion when the communicating counterpart of the mobile station that communicates with said radio base station is switched to a radio base station in the second radio communication system that employs the second communication protocol by said switching control means when said detection means makes said detection.

Claim 31 (Currently Amended): In A handover control systems that ~~switch~~ switches a radio base station stations which serves as a communicating counterpart of a mobile station, comprising:

a traffic congestion checking ~~means for deciding~~ unit configured to decide whether communication of a radio base station will be in a traffic congestion condition;

a selection ~~means for selecting~~ unit configured to select a combination of ~~any~~ a given mobile station ~~that is communicating with said radio base station and one of a plurality of a~~ required number of radio stations ~~with which communication is possible with said mobile station in accordance with~~ required to satisfy a predetermined standard when said traffic congestion checking ~~means~~ unit determines that the radio base station will be in a traffic congestion condition; and

a switching control ~~means for switching~~ unit configured to change the communicating counterpart of the given mobile station in the selected combination to ~~one or more~~ the

required number of radio base stations in the combination so that the given mobile station communicates with the required number of radio base stations simultaneously.

Claim 32 (Original): The handover control system as claimed in claim 31, wherein the predetermined standard for selecting a combination of said mobile station and radio base station is defined based on the amount of available radio resources in the radio base station, or the amount of radio resources required.

Claim 33 (Original): The handover control system as claimed in claim 31 or 32, wherein

the predetermined standard for selecting a combination of said mobile station and a radio base station is defined based upon the receiving electric field intensity in communication between mobile stations and radio base stations.

Claim 34 (Currently Amended): The handover control system as claimed in claim 31 or ~~33~~, wherein

the predetermined standard for selecting a combination of said mobile station and a radio base station is defined based upon the ratio of the amount of radio resources permitted to the mobile station to the amount of radio resources currently used in fact.

Claim 35 (Currently Amended): The handover control system as claimed in ~~any one of claims~~ claim 31 ~~through 34~~, wherein

the predetermined standard for selecting a combination of said mobile station and a radio base station is defined based upon the number of the radio base stations which

should perform simultaneous communication after switching the communicating counterpart.

Claim 36 (Currently Amended): The handover control system as claimed in ~~any one of claims~~ claim 31 ~~through 35~~, wherein

the predetermined standard for selecting a combination of said mobile station and a radio base station is defined based upon whether the radio base station which is performing the current communication is included.

Claim 37 (Currently Amended): The handover control system as claimed in ~~any one of claims~~ claim 31 ~~through 36~~, wherein,

said selection means gives the priority about the appropriateness of mutual communication to combinations of each mobile station that communicates with said radio base station and said radio base station and one or more adjacent radio base stations; and

a combination of a mobile station and a radio base station which is given with the highest priority is selected.

Claim 38 (Currently Amended): The handover control system as claimed in ~~any one of claims~~ claim 31 ~~through 37~~, wherein

said selection means is provided in a node connected to each radio base station via a wired section.

Claim 39 (Currently Amended): The handover control system as claimed in ~~any one of claims~~ claim 31 ~~through 37~~, wherein

a mobile station which communicates with said radio base station selects a combination of said mobile station and one or more radio base stations with which communication is possible in accordance with said predetermined standard.

Claim 40 (Original): The handover control system as claimed in claim 39, wherein said mobile station that communicates with said radio base station comprises said traffic congestion detection means.

Claim 41 (Currently Amended): The handover control system as claimed in any one of claims 22, 23, and 31 ~~through 40~~, comprising:

communication condition supervision means for supervising the communication condition between the mobile station and one or more radio base stations after switching the communicating counterpart of said mobile station to said one or more radio base stations;

condition decision means for deciding whether the communication condition supervised by said communication condition supervision means will be in a condition poorer than the predetermined standard condition; and

re-switching control means for performing process for switching the communicating counterpart of said mobile station again when said condition decision means determines that the communication condition as supervised is in a condition poorer than the predetermined standard condition.

Claim 42 (Original): The handover control system as claimed in claim 41, wherein said communication condition supervising means comprises error rate detection means for supervising an error rate in communication between a mobile station and one or more radio base stations as said communication condition.